**Evaluate: Solve Using Matrices**  Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

PAP Algebra 2 Date \_\_\_\_\_\_\_\_\_\_\_\_\_ Per \_\_\_\_\_\_

Write a linear system with the information given in each problem. Solve Using Matrices.

1. Admission for a talent show was $1.25 for adults and $.50 for children, and the receipts totaled $406.75. If 512 people attended, how many adults and how many children were there?
2. A collection of dimes and quarters is worth $19. There are 91 coins in all. How many of each are there?

3. Dillon bought 3 hot dogs and 2 candy bars for $4.50, and Andy bought 1 hot dog and 4 candy bars for $4.00. How much did each item cost?

4. At a furniture store, one sofa and one love seat cost $1100; one sofa and three chairs cost $1600; and one sofa, one love seat, and one chair cost $1400. What is the price of one sofa?

5. The feed mill pays a farmer $6930 for the 1st delivery, $5475 for the 2nd delivery, and $8879.50 for the 3rd delivery. The table shows the number of bushels included in each delivery. Find the price per bushel that the farmer received for each crop.

|  |  |  |  |
| --- | --- | --- | --- |
| Delivery | Corn | Wheat | Soybeans |
| 1st | 900 | 540 | 360 |
| 2nd | 1125 | 150 | 225 |
| 3rd | 860 | 645 | 645 |

6. The movie theater charges $4 for children, $6 for adults, and $5 for senior citizens. A group of 14 people from a family went to see a movie. There were an equal number of children and senior citizens. The total cost was $66. Let *x* represent children, *y* represent adults, and *z* represent senior citizens. How many people in the group were in each age category?

7. During the 2004-2005 NBA season, Shaquille O’Neal scored 1669 points while making 1011 shots. Shaq’s points were a combination of 3-point field goals, 2-point field goals, and 1-point free throws. He made 305 more 2-point field goals than free throws. How many of each type of shot did Shaq make during the season?